Are you using a $1,000 pencil?
Hello!

I am Kevin Conner
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Alan November coined the term "$1,000 pencil" as an analogy for misuse of ed tech in teaching and learning. Collectively, we'll explore what defines the transformation of learning with thoughtful use of technology.
Next, we'll explore some models and next steps to reach that level of transformation. Bring your laptop or tablet to join in the activities.
A picture is worth a thousand words

As a group, we can share our thoughts in a Padlet that will survive beyond the next 40 minutes.

goo.gl/eBeh4W
The $1,000 Pencil

OK, so now it’s discounted to $299
Adding a digital device to the classroom without a fundamental change in the culture of teaching and learning will not lead to significant improvement.

--Alan November 2/10/13
We must embrace the reality that much of what school is about today can be outsourced to a smartphone. All you need to be the smartest person in the room is a digital device and to know how to use it.
Is this transformational?

A worksheet is a worksheet in any form...
Is this transformational?
What can be taught? What can be learned?
Is this transformational?
What can be taught? What can be learned?
...balance between instruction, assessment, and the effective use of digital resources to promote higher order thinking, engaged student learning, and authentic assessment

LoTi
LoTi "Sniff" Test

LoTi Level 1: Awareness
If teacher uses technology only for productivity tools
Teacher-centered

LoTi Level 2: Exploration
If students use technology for lower cognitive skills
Teacher-centered

LoTi Level 3: Infusion
Products emphasize complex thinking skill strategies (i.e., problem-solving, decision-making, reasoning)
Teacher-centered

LoTi Level 4a: Mechanical Integration
There are unresolved classroom management issues
Student-centered

LoTi Level 4b: Routine Integration
Teacher is in comfort zone
Student-centered

LoTi Level 5: Expansion
Multiple technologies being used toward product completion
Student-centered

LoTi Level 6: Refinement
Do students have unlimited access to technology during the school day?
Student-centered
SAMR

...supports and enables teachers to design, develop, and infuse digital learning experiences that utilize technology.
Redefinition
Tech allows for the creation of new tasks, previously inconceivable

Modification
Tech allows for significant task redesign

Augmentation
Tech acts as a direct tool substitute, with functional improvement

Substitution
Tech acts as a direct tool substitute, with no functional change
Global shipment of computing devices in 2018

Even at $299 that is $702 Billion
Is It Worth It?

Maybe we need to ask some different questions...
The Transformational Six

1. Did the assignment build capacity for critical thinking on the web?
2. Did the assignment develop new lines of inquiry?
3. Are there opportunities for students to make their thinking visible?
4. Are there opportunities to broaden the perspective of the conversation with authentic audiences from around the world?
5. Is there an opportunity for students to create a contribution (purposeful work)?
6. Do students own their learning?

--Alan November 1/12/15
Did the assignment build capacity for critical thinking on the web?
Google ADVANCED SEARCH CHEAT SHEET

Use these functions in conjunction with your Google searches and find simple answers to your questions without sifting through irrelevant search results.

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**Related:**
- What it does: Shows results that are related to your search query.
- Example: 

**Info:**
- What it does: Shows information about your searched domain indicating:
  - a cache of the site
  - similar pages to the site you searched
  - related pages to the domain you searched
  - other pages on the same domain
- Example: 

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**Define:**
- What it does: Gives the definition of any phrase or word that you search.
- Example: "define anatomy"

**Source:**
- What it does: Searches for members of a specific person or thing in certain news sources.
- Example: "Rocker Grunge Singer New York"

**Location:**
- What it does: Shows articles based on a specified location.
- Example: "Paris France" "Rome Italy"

**Filetype:**
- What it does: Shows articles in your specified file type.
- Example: "PDF, HTML"

**Weather:**
- What it does: Shows results for weather in a specified location.
- Example: "San Francisco weather"

**Movie:**
- What it does: Shows show times for a specified movie in a specified location.
- Example: "Dawn Of The Planet Of The Apes New York"

**Cache:**
- What it does: Shows results for weather in a specified location.
- Example: "Greece Crete棒"

**Stocks:**
- What it does: Shows most recent cache of a specified stock.
- Example: "Google Inc.棒"

**Map:**
- What it does: Shows map of a specified location.
- Example: "New York Manhattan"

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**Equation:**
- What it does: Calculator.
- Example: "10/5"

**Tip Calculator:**
- What it does: Calculator to help you decide how much to tip.
- Example: "15% on 50"

**# Minute Timer:**
- What it does: Shows a timer with your specified time.
- Example: "20"

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**2 Sports Teams:**
- What it does: Shows the scores of a current game.
- Example: "Chicago Bears"

**Sunrise/Sunset:**
- What it does: Shows the time of sunrise and sunset for a specific location.
- Example: "New York"

**Stopwatch:**
- What it does: Shows the status of a specific flight.
- Example: "Flight Number"

**Flight Number:**
- What it does: Shows the status of a specific flight.
- Example: "Flight Number"
Under this “Wild Wild West – No Sheriff-in-Town” learning environment, it is even more important that we prepare students to make thoughtful decisions about how to select high quality sources.

--Alan November 1/12/15
Did the assignment develop new lines of inquiry?
THE IMPORTANCE OF QUESTIONING

• Children’s questioning dramatically drops off after the age of 4
• Our current education system does not teach our students how to formulate their own questions
The Question Formulation Technique (QFT)
How to produce questions, improve them, and strategize on using them

Four rules:
1. Ask as many questions as you can.
2. Do not stop to discuss, judge, or answer any of the questions.
3. Write down every question exactly as it was stated.
4. Change any statements into questions.
What’s Going On in This Picture?
March 28, 2016

This week’s image comes from the Jan. 27, 2016 “Pictures of the Day” slide show on the Lens blog. The original caption reads:

A Greek man grabbed a bag of tangerines as farmers handed out free produce in Athens to protest government plans to overhaul the pension system.
One of the most important skills is to teach our students how to ask the creative, innovative and even impossible questions. “The new answers are the creative questions.”

--Alan November 1/12/15
Are there opportunities for students to make their thinking visible?
We now have tools that can reveal what students are thinking. Research shows that one of the most important skills to improve student achievement is to teach them to self assess their work.

--Alan November 1/12/15
Prism

A tool that allows students to self assess, and allows the teacher to get a feel for the class as a whole:

◎ Prism is a text analysis tool
◎ Let’s try it: goo.gl/hYE9my
Are there opportunities to broaden the perspective of the conversation with authentic audiences from around the world?
...designing a lesson on immigration to the US. When she discovered that The Economist magazine blog had an ongoing discussion on immigration she realized that she could engage her students in a high level conversation with people around the world on this topic.

--Alan November 1/12/15
Is there an opportunity for students to create a contribution (purposeful work)?
Their commitment to their work does not depend on an external reward or punishment system such as grades, but an intrinsic drive based on making a contribution.

--Alan November 1/12/15
Does the assignment demo “best in the world” examples of content and skill?
...watch what happens when you show students “the best in the world examples” of what other students can accomplish. Students are often more motivated, inspired and willing to work harder when they know what other students have accomplished.

--Alan November 1/12/15
Let’s Look At Our Models Again
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Let’s Look At An Example
Thanks!

Any questions?

You can find me at @kbconner & kevin.conner@aiu3.net
Articles/Blog entries referenced:

Crafting a Vision for Empowered Learning and Teaching: Beyond the $1,000 Pencil
By Alan November  January 23, 2017

Why Schools Must Move Beyond One-to-One Computing
By Alan November  February 10, 2013

Walk Through for Innovation: Six Questions for Transformed Learning
By Alan November  January 12, 2015
http://novemberlearning.com/educational-resources-for-educators/teaching-and-learning-articles/walk-through-for-innovation-six-questions-for-transformed-learning/

Alan November on the "$1000 Pencil' and Why Edtech Companies Aren't Pushing the Envelope
By Mary Jo Madda (Columnist)  August 15, 2016
Images used in the presentation

Sticky notes

Ian Jukes on Twitter meme
https://pbs.twimg.com/media/DMlYhtzWkAAi0K8.jpg

Google Advanced Search Cheat Sheet
https://www.webpagefx.com/blog/google-2/google-advanced-search-operators-cheat-sheet/

Question Formulation Technique Slideshare (2 images)
https://www.slideshare.net/tagartteacher/qft-presentation-w-o-embedded-video-33325098

What’s Going On In This Picture? New York Times
Images used in the presentation

Videoconferencing International Peers
Rowayton School students connect with peers in Guatemala
By KOREY WILSON
Hour Staff Writer Published 1:30 pm, Friday, June 6, 2014

http://ww4.hdnux.com/photos/47/26/54/10316579/5/1024x1024.jpg
Worksheet screenshot iPad
https://s2.mzstatic.com/r30/Purple2/v4/d1/18/63/d1186375-7cc2-b822-b4a5-9b765f8573a/screen960x960.jpeg

iMovie iPad screenshot

Toontastic iPad screenshot
Images used in the presentation

Explanation of LoTi
https://www.loticonnection.com/loti-framework

LoTi diagram
https://d1zqayhc1yz6oo.cloudfront.net/thumbs/thumb-5f36c8a7b99953b8a0e7037f8c2ebfb1.jpg

Explanation of SAMR
http://www.schrockguide.net/samr.html

SAMR graphic
Images used in the presentation

Upper St. Clair student takes science project to White House Lake Fong/Post-Gazette
http://www.post-gazette.com/image/2014/06/06/1140x_q90_a10-7_cTC_ca11,0,2040,1972/20140605lfRobotLocal01.jpg

YANAN WANG
Pittsburgh Post-Gazette
9:32 AM JUN 12, 2014

TMO’s Robotic Center: New Projects by WRO’s Award Winners
22 March 2017, 12:36
Resources mentioned in the presentation

**ISTE** (International Society for Technology in Education) and the ISTE Standards
- **ISTE Standards for Educators**
- **ISTE Standards for Students**

**Wolfram Alpha** Computational Search Engine
- **A New Level of Step by Step Problem Solutions**

**PRISM Text analysis Tool**

**What’s Going On In This Picture?** - New York Times Education

**Question Formulation Technique from the Right Question Institute**

**John Hattie Visible Learning** research
- **Infographic about feedback in the classroom** - worth looking at!